

KNOWLEDGE

VOLUME 12 NUMBER 1 SEPTEMBER 2008

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

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ARMY STRONG



U.S. ARMY COMBAT READINESS SAFETY CENTER
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KNOWLEDGE

OFFICIAL SAFETY MAGAZINE OF THE U.S. ARMY

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"OUT OF THINKING IN

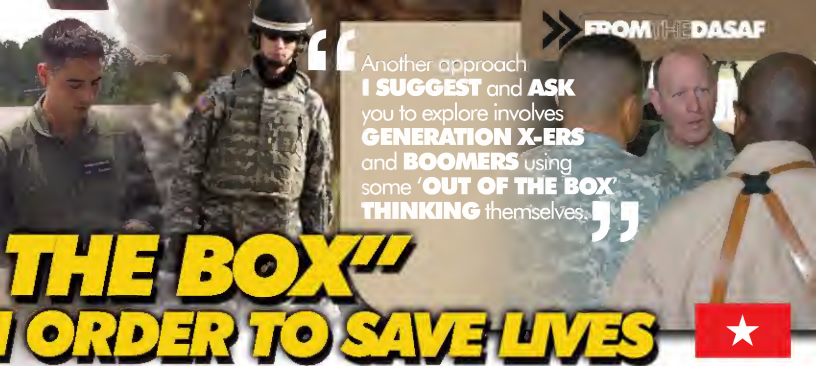
Our Army is doing great. We know exactly how many accident fatalities we experience; we don't, however, know how many we prevent. And the latter is where the good news stories are found. But, we, as an Army, can do better in both areas.

Every day and everywhere I go, I see firsthand engaged Leaders making a positive impact in the lives of Soldiers, Families and Civilians. Where I believe we experience a breakdown is at two critical points: the level of understanding and the magnitude of our engagement strategy.

Allow me to explain: Several research institute surveys define cultural generations by categorizing groups based on various criteria and expectations. Researchers allow different generation groups to select from

a defined list those criteria they believe best categorize and define their age groups. This simplification of generations provides Army Leaders with a window of clarity to gain a basic understanding of our Soldiers.

For brevity, let's use the "2008 World of Work" survey results discussed in the *Kansas City Star* on July 7, 2008. This survey samples a segment of the U.S. population based on character traits and ages. In my opinion, there is no set of criteria that is completely descriptive of any generation, but the likenesses I see in our



Another approach I SUGGEST and ASK you to explore involves GENERATION X-ERS and BOOMERS using some 'OUT OF THE BOX' THINKING themselves."

THE BOX" IN ORDER TO SAVE LIVES



Army's culture are amazingly similar.

The characterization of generations by age, matched against the top five traits chosen from 31 character traits, are:

Gen Y-ers (born 1980 - 1990)

- Make personal friends at the workplace
- Sociable
- Think out of the box
- Open to new ideas
- Friendly

Gen X-ers (born 1965 - 1979)

- Confident
- Competent
- Willing to take responsibility
- Willing to put in the extra time to get the job done
- Ethical

Boomers (born 1946 - 1964)

- Strong work ethic
- Competent
- Ethical
- Ability to handle a crisis
- Willing to take on responsibility
- Good communication skills

Mature (born 1925 - 1945)

- Strong work ethic
- Ethical
- Committed to the company
- Competent
- Confident

Why is any of this important and why do I take you through this exercise? I consider this instructional in crafting solutions to lessen the losses of our Generation Y Teammates. Further, our Generation Y brothers and sisters are, according to the number of recorded deaths our Army has experienced, our most vulnerable Teammates.

How do we target the Generation Y-ers who seem to be in the majority of the Army's accidental fatalities? Generation Y Soldiers' expectations are defined and developed by past influencers (Family, church, media, etc.). To forcibly change and positively adjust their lifestyles without degrading what they bring to the fight is tough work. Another approach I suggest and ask you to explore involves Generation X-ers and Boomers using some "out of the box" thinking themselves.

This non-conventional approach may put you out of your comfort

zone, but the chances that it will widen the possibility for success are high. At the very minimum, we will increase our awareness of this target-rich environment for change. Maybe the Generation X-ers and Boomers, not the Generation Y-ers, are the ones who need to adjust their approach and think "out of the box" to create messages and solution sets that transcend the communication barrier between them and the Generation Y-ers.

Each generation is unique and Generation Y-ers are no different. But Generation X-ers' and Boomers' ability to crack the code on the mechanics of what makes the Generation Y-ers unique holds unexplored possibilities of preventing losses. Our efforts surely will create a positive change as we, Leaders, grow based upon our enhanced understanding of Generation Y-ers who seem to be the most vulnerable. <<

Army Safe is Army Strong !!

William H. Forrester
Brigadier General, USA
Commanding

BEST PRACTICES FROM OUTSIDE THE BOX

When they **KNOW** their **FAMILIES** are **SAFE**, **SOLDIERS** can focus on the **MISSION** at hand, thereby actually **ALLOWING** Soldiers to **OPERATE** safer. ”

As we start September, school is back in session for most of our children.

Take a couple of extra seconds to look before backing up and slow down as you move out through areas with children. The safety of Family members is as important to the Army as the safety of our Soldiers. We have known for years the impact Family members have on the retention of quality Soldiers, but they also have a higher propensity to join the military than any other demographic group in America. When they know their Families are safe, Soldiers can focus on the mission at hand, thereby actually allowing Soldiers to operate safer.

I'm always looking for new ideas and ways to promote safety that I can pass on to others. I recently had the opportunity to visit an installation safety day held on Fort Campbell, Ky. The Home Safety Council, Residential Communities Initiative (RCI) partners, Actus Lease Lend and Winn Residential teamed with post officials to sponsor the Great Safety Adventure (GSA). The GSA is an award-winning "field trip on wheels" that brings home safety to neighborhoods. Out of all the safety exhibits featured throughout the event, the traveling exhibit was clearly the big hit with the children.

Home Safety Council President

Meredith Appy explained that the organization has two safety adventure trucks, one traveling the East Coast and one the West Coast, teaching home safety to school-age children. During the interactive tour of the exhibit, children and their parents were able to explore the animated home. Trained safety experts called Safety Rangers and Rover, the Home Safety Hound, led the tour, identifying common home safety hazards that are typically overlooked. Rover and the Safety Rangers focus on the five leading causes of home injuries: (1) falls, (2) poisoning, (3) fires and burns, (4) choking and suffocation and (5) drowning. Led by Safety Ranger Kristy, I took the tour with a group of 6-year-old children from one of the installation's child development centers and found it an informative, as well as enjoyable, experience.

A high-tech way to promote safety utilizes the instant, around-the-world communication capabilities provided by the World Wide Web. Information-savvy Soldiers, and, in most cases, Leaders are aware of the "broadcast yourself" Internet phenomenon known as YouTube. But did you know that you could find safety information on YouTube? Bridgestone-Firestone

offered a \$5,000 scholarship under its Safety Scholar program. To compete for the scholarship, teens shot and submitted original 20- to 50-second safety videos intended to message their peers. Fort Bliss' 11th Air Defense Artillery Brigade has duplicated the program. Col. Forrest E. Smith, who has since departed Fort Bliss, and Command Sgt. Maj. Henry Hurd held a similar safety video contest. The command team selected the best videos from the unit and aired the winning submissions via the on-post command information channel.

What a novel idea – peers messaging peers to make a difference. The Family Morale Welfare and Recreation Command and the U.S. Army Combat Readiness/Safety Center are preparing to conduct an Armywide video contest with the same aim in mind, and I look forward to seeing videos demonstrating positive safety behavior from the perspective of Soldiers keeping Soldiers, and Families, safe. ◀



Tod L. Glidewell
Command Sergeant Major
U.S. Army Combat Readiness/Safety Center

SAFE WINTER FLYING

PAULA ALLMAN
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

Before the first snowflake falls, Soldiers and aircrew members need to prepare for the harsh winter conditions ahead. Proficiency training in winter operations should already be on every crewmember's agenda because the warm days of summer will soon give way to snow, ice and freezing winds.



Operating and maintaining aircraft in cold weather can be physically demanding and hazardous. Regardless of winter's adverse environmental conditions, the Army must continue to defend our nation's interests around the world and train future warfighters. To do so safely requires taking cold weather training seriously and applying composite

risk management (CRM) effectively.

Now is the time to start brushing up on winter flying techniques. Review CRM worksheets for known hazards associated with cold weather operations, identify any hazards specific to the unit's mission or area of operation and develop effective control measures that will mitigate the risks. Advance preparation and effective CRM won't



keep the snow from falling or the cold winds from blowing, but it will help prevent costly accidents and cold weather injuries when winter arrives.

Preparing for cold weather isn't a complicated process; aircrews should have a plan and a contingency, said Lt. Col. Scott Kubica, Air Task Force director for the U.S. Army Combat Readiness/Safety Center.

"We should be prepared for winter flying conditions — such as dramatic changes in temperature, blowing snow conditions and potential icing. Aircrews should also ensure they carry appropriate survival gear for their mission," Kubica said. "While assigned in Korea, one of our units was scheduled to fly a UH-60A mission the following morning. We normally hangared the aircraft the night before;

however, due to other mission requirements, we were unable to put it in the hangar. The following morning, during the predawn preflight, the aircrew found snow on the fuselage and blades. They removed all the snow, but they didn't discover the ice on the blades because of the darkness. When they started the aircraft, black ice shed from the blades and punctured a hole in the aft pylon, resulting in Class C damage."

Units that haven't reviewed training in cold weather flying should do so immediately. When an aircrew is involved in a whiteout during an approach or experiences spatial disorientation over a snowy field, it's too late to talk about training.

Inexperience and lack of recent training are frequent contributors to snow-related accidents. If new to an area

with frequent snows, aircrews should get into Field Manual (FM) 3-04.203, *Fundamentals of Flight*, as well as all the local standing operating procedures. They should also ask questions — lots of questions — of local safety officers and instructor pilots.

Even if they have lots of winter flying experience, a few





“When an aircrew is **INVOLVED** in a **WHITEOUT** during an approach or experiences **SPATIAL DISORIENTATION** over a snowy field, **IT'S TOO LATE TO TALK ABOUT TRAINING.**”

months in temperate weather can erode winter flying proficiency. Remember, overconfidence can lead to an accident just as surely as inexperience. Consider the following recent accidents:—

- During night vision goggle (NVG) flight, the UH-60A crew of four briefed a landing to the center of a mountainous, snowy, confined area, utilizing a single reference point to the left of the aircraft. During approach to landing, the crew experienced

whiteout conditions at about 20 to 40 feet above ground level (AGL) and drifted into trees, damaging the main rotor blades, tail rotor blades, stabilator and engine deck.

- During a snow landing to an unimproved landing area, the CH-47D right aft landing gear struck a boulder that was covered in snow and detached from the aircraft. The aircraft was brought to a hover and the landing gear was secured with straps to the ramp. The aircraft returned to base, where it

landed on pallets and mattresses. The aircraft was shut down and jacks were placed underneath to help secure it. No further damage occurred to the aircraft.

- An OH-58D(I) crew experienced whiteout while conducting night/ NVG snow-qualification training. During final approach to a snow-covered landing zone (LZ), a snow cloud engulfed the aircraft. The pilot continued to hover in the snow cloud and became disoriented; consequently, the aircraft drifted right, spun 180 degrees and impacted several small trees. The rotational momentum continued as the main rotor blades disintegrated. The aircraft came to rest in a level, upright attitude, sustaining significant damage. The crewmembers received minor injuries.

- A UH-60A crew had planned to take off through a large gap between two groups of trees and then down a ravine, using only 5

» DID YOU KNOW?

The mountainous regions in north and northeastern Iraq, which include the cities of Mosul and As Sulaymaniyah, receive heavy snowfall each winter, especially during December, January and February. Afghanistan experiences much harsher winters than Iraq. More than 49 percent of Afghanistan is made up of mountains at least 6,500 feet high. Afghanistan experienced record snowfall and cold temperatures in the early months of 2005, with nighttime temperatures in Kabul dropping to -64 F!

percent more than hover power. On the instructor pilot's second takeoff, he came to a 10-foot hover to check his power and then pulled in additional power, causing the snow cloud to increase. As a result, the crew lost sight of the trees, drifted left and the main rotor blade struck the trees.

- While air-taxiing into a tactical parking area, the pilot in command made a decision to execute a blowing snow approach (without a visual, fixed reference point) to a location close to another aircraft operating at engine idle in its assigned parking point. The main rotor blades of the two aircraft meshed.

A primary rule in any aircraft movement under winter conditions is to think before acting. This environment demands a thoughtful approach to every task. For example, an aviator does not bring the helicopter to a hover and then determine where to go. This will usually result in a whiteout, mandating an instrument takeoff (ITO)-type maneuver to climb above the snow cloud and return to visual meteorological conditions.

On an airfield, this results in traffic complications and a safety hazard. Each phase of flight requires a plan, which is announced to the other crewmembers, utilizing sound aircrew coordination techniques. Crewmembers clearly establish and announce intentions before executing.

Hovering in snow can quickly result in a complete and persistent whiteout requiring the aviator to execute appropriate ITO procedures. The essential rule is to expect the worst when preparing to hover in snow conditions. Always assume a whiteout will result from your actions. This mindset, coupled with proper preparation, will make for a safer flight. A takeoff should be performed into the wind, as this will assist in keeping any snow cloud to the rear of the aircraft.

Aircrews can use the following procedures from FM 3-04.203 to overcome depth perception difficulties:

- Use terrain features (trees, vegetation and large rocks) as references. Knowing the approximate dimensions of these features

produces a more accurate estimate of height and distance.

- Improve depth perception by viewing terrain through the side window and comparing this perspective to the view through the windscreen. Maintaining a good scan pattern, similar to that used in night flight, is essential.

- Drop something on the landing surface to serve as a point for comparison when existing landmarks or features cannot be used to determine altitude and distance. An example is a length of pine bough or an item easily seen against the white background that won't sink into the soft snow.

- Make frequent reference to flight instruments, ensuring level flight, adequate altitude AGL and appropriate airspeed.



The information is correlated with current visual information. This continual process requires aviators to scan inside and outside the cockpit.

- Use aircraft landing lights to assist in depth perception. Lights are adjusted to reduce the reflection off the snow.

Summary

Since the dawn of Army aviation, winter weather has

presented challenges to aircrews. Unfortunately, nothing can be done to change the weather. However, the very predictability of changing seasons gives aircrews time to plan training for the different kinds of flying concerns each season brings. Units tasked to deploy to a cold environment should, in addition to reviewing appropriate FM and training manuals, seek guidance and necessary information to train and prepare their personnel

by contacting appropriate units. Units with experience operating in these cold weather conditions have established training programs and 3000-series tasks not included in individual aircrew training manuals which are essential to mission accomplishment. If you haven't already done so, get refresher training, review FM 3-04.203 and be alert to the hazards associated with winter flying.◀



LANDING SURFACE

Aviators should consider what is beneath the snow during all landings. While the snow appears level, the ground beneath could be sloped or covered with rocks, logs, holes and other hazards. Treat all landings as possible slopes and be prepared if one side or both breaks through the surface. Snow-covered frozen bodies of water have the appearance of a good landing zone.

The Cold, Hard Facts

1ST LT. ERIK JOHNSON
Indiana National Guard
Indianapolis, Ind.

Exposure to the elements is an occupational hazard that is familiar to all Soldiers. As Leaders, we must be aware of the difficult circumstances the junior ranks often find themselves in. Whether in the field or in garrison, it's the corporal – not the commander – who is outside in the cold while on patrol or setting pickets. However, proper awareness and implementation of appropriate control measures can help prevent these Soldiers from becoming cold weather casualties.

Clothing

Normally, Soldiers who suffer cold weather injuries are not dressed properly. All Soldiers must be issued the full complement of cold weather gear, including insulated boots, gloves and a field jacket liner. Soldiering often requires intense physical exertion, causing body heat to be lost through perspiration. Clothing dampened by sweat or environmental elements such as sleet or rain provides no insulation against the cold and actually increases the risk of injury.

Once a Soldier's clothing becomes drenched in sweat, the layers stick together and prohibit warm air from being trapped

between them. Therefore, Soldiers must dress as lightly as possible for the conditions to reduce the hazard of excessive perspiration. Clothing should be worn loose and in layers so it can be vented at the neck. Garments that fit too tight restrict circulation and reduce insulation and ventilation in the covered areas, providing an environment for cold injury.

The changing of socks and wearing of proper footwear is also important in the prevention of cold weather injuries such as trench foot or immersion foot. Additionally, Soldiers should wear gloves with inserts in cold weather. Head protection is also necessary to prevent heat loss.

The uniform should be kept as dry as possible, for reasons mentioned above. Finally, Soldiers should always use the buddy system. In other words, each Soldier should observe his or her counterpart in the field for early signs of cold weather injuries.

Nutrition and Hydration

Good nutrition is another important measure to prevent cold injury because it provides the body with fuel to produce heat. The number of calories needed to maintain normal bodily function generally increases as the weather gets colder. However, adequately clothed and protected Soldiers in cold climates don't require more

than the usual ration of 3,600 to 4,600 calories they're provided every day in Meal, Ready-To-Eat packages or dining facility meals.

One of the most important precautions Soldiers can take to stave off a cold injury is to stay properly hydrated. Leaders can help their Soldiers stay hydrated by providing them with liquids they'll actually drink. Lukewarm drinks with some flavoring taste better than cold, tasteless drinks in the winter. However, Leaders should remember coffee, tea, hot chocolate and soda are diuretics and can actually increase fluid output and lead to dehydration.

Proper Training

It is known that well-trained Soldiers suffer less from the cold than others. The absence of a cold weather officer at the unit level leaves Leaders without a focal point to ensure first-

line supervisors are properly trained to implement cold injury preventive measures. The potential consequences of command inattention to cold weather training are numerous and dangerous.

Though it may seem obvious, Leaders must also remember to use weather data when planning cold weather missions. Knowing what hazards are forecast allows for more informed and effective mission planning. But, fundamentally, troops should all be trained how to prevent, detect and give first aid for cold weather injuries if a mission plan is to be truly sound.

Likewise, all troops must be disciplined in their behavior for any mission plan to have a real chance at success. Soldiers should not consume alcohol or use tobacco products just before or during operations. Although

alcohol may give a sensation of warmth, it actually decreases the core body temperature and increases the risk of hypothermia. Tobacco causes constriction of blood vessels (which bring nutrients and warmth) to the extremities. For safety's sake, it's best to stay away from both alcohol and tobacco products.

Conclusion

Cold weather is a threat to successful operations. Fortunately, there are effective countermeasures to these threats. It's never too early to start planning for cold weather. Prior planning enables units to effectively employ these cold weather countermeasures and may help prevent your Soldiers from suffering an injury this winter. ◀◀



The following cold injuries require immediate medical attention, so don't delay if you or your buddy exhibit any of the following symptoms:

Hypothermia: Shivering, an altered sense of consciousness and uncoordinated movements. Hypothermia can be fatal if treatment is not given immediately.

Carbon monoxide poisoning: Flu-like symptoms, including fatigue, drowsiness and headache. Affected individuals also might become confused and develop blurred vision. Carbon monoxide is odorless, colorless and tasteless. Suspected carbon monoxide victims must be moved to fresh air and given medical attention immediately.

Frostbite: Loss of feeling or a tingling sensation in the affected area along with white, gray, red, yellow or waxy-looking skin. The frozen tissue will feel solid to the touch.

Trench foot: Numbness in the feet accompanied by a burning sensation and shooting pain. Severely affected tissue will appear pale and slightly blue. Trench foot can lead to gangrene.

Chilblain: Reddened, slightly swollen skin accompanied by a prickly or burning sensation. Left untreated, chilblain can lead to more severe cold injuries.

a “SPORTING” CHANCE for **RIDERS**

BOB VAN ELSBERG
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

You see them all the time – flashy sportbikes coupling tremendous acceleration with incredible agility. The fastest ones will nudge 200 mph – a road-sizzling 300 feet per second! And did you notice the steep angle of the front forks? That makes steering ultra sensitive. Twitch at high speed and you change lanes. Sneeze and you’re two counties over. Even the rider is part of the performance package. Crouched low over the tank to reduce wind resistance, they’re part of the streamlining.



Costing a fraction of the “tuner” cars popularized in “The Fast and the Furious” movies, the quickest of these bikes can smoke anything on the road. However, while the price tag offers an unbeatable dollar-per-horsepower ratio on the street, there are other costs. Bred for the controlled environment of the track; on the street, sportbikes can get ahead of their riders, eliminating their options before they realize it.

The Army knows that. So does the Motorcycle Safety Foundation (MSF). Soldiers ride all kinds of motorcycles, and sportbikes are very popular. To keep Soldiers alive so they can enjoy the next ride, the MSF has teamed with the U.S. Army Combat Readiness/Safety Center (USACRC) to create the Military Sportbike *RiderCourse*SM (MSRC).

“We worked with the Army very closely to develop a three-hour classroom course that helps riders assess their own risk management,” said Charlie Fernandez, MSF general manager and a sportbike rider. The goal, he explained, is to get riders to accurately assess their skills and measure them against the risks they’re willing to take. The key word is “accurate.” However, getting riders to that point involves a

gradual learning process. And this is no lecture class – riders are expected to uncover the truth for themselves. That’s important because many riders overrate their skills, said Glen Picklesimer, a contractor who trains MSRC *RiderCoaches*.

“When they walk in, we have them tell us on a scale of one to 10 where they think their skills are,” he said. “Generally, if they’ve been riding a couple years, they think their skills are pretty high. They’ll think they’re a seven, an eight or a nine.”

Getting students to take a more objective view of their abilities takes a process of discovery during the classroom

sessions. Separated into teams and grouped with *RiderCoaches*, riders are presented situations they might encounter and asked, “How would you handle this?” There’s no “answer key” and the *RiderCoaches* aren’t going to tell them what to do. Riders are expected to present their best answer and be willing, with the input of other students and *RiderCoaches*, to talk through it. There are no “bad” answers – just opportunities to learn. It has to be that way for riders to open up without feeling intimidated.

Picklesimer explained the course isn’t how your hands and feet handle the controls, it’s about how your brain handles the decisions. It’s about your attitude when you swing your leg over the seat. Do you really know your skills? Do you really understand the risks? Do you search for risks and plan to avoid them? It’s all “mental” stuff – just like composite risk management – but it’s designed to save your butt.

“YOU can PREACH to PEOPLE all you want, but UNLESS you MODIFY their BEHAVIOR, you’re NOT going to CHANGE ANYTHING out there.”





Once the students have talked through handling road situations such as cornering, braking and swerving and straight-line braking using techniques reflecting their machines' handling, they get to practice on the course. Seeing is believing and the demonstrations immediately got the attention of Sgt. Shawn M. Redondo, an air traffic controller assigned to Fort Rucker's Company B, 1st Battalion, 11th Aviation Regiment.

As a Honda CBR 600 rider, Redondo said, "The main thing that opened my eyes was the

braking demonstration we did." He explained that from 25 mph it took nearly 60 feet to stop – a sobering thought when a rider's biggest concern isn't how fast his bike can go, but how fast it can stop.

As the riders performed the various maneuvers, they were taught advanced techniques tailored for their machines. Redondo had paid close attention to the discussions on cornering that morning in the classroom.

"We were trained to lean upward and in when we're going around a turn to balance the bike a lot better," he said. He added that he'd always favored his right side in turns,

finding it harder to turn left. One of the other students had the opposite problem. "We discussed how to position our bodies, thinking maybe that was what was causing us not to lean far enough to the right or left."

Through this kind of discussion between students and their *RiderCoaches*, the riders became able to measure themselves and their skills more accurately. When they were given the chance to reassess their skill level at the end of the day, the answers were a more realistic "two, three or four," Picklesimer said.

"They realize there's a lot more to learn and they're not necessarily 'king of the hill' anymore," he said. Picklesimer added the students often realize they're more vulnerable than they thought. He explained this was the course's golden nugget – getting riders to know themselves and their bikes and to choose to ride within what they can safely handle. That it is "their" choice is essential, according to



For more information on this new training, contact the Driving Task Force at the U.S. Army Combat Readiness/Safety Center at 255-3034, DSN 558-3034 or e-mail drivingtaskforce@crc.army.mil.

Picklesimer. "You can preach to people all you want, but unless you modify their behavior, you're not going to change anything out there," he said.

That got through to the riders. Redondo ended the day with a changed perception of himself. He no longer rated himself a seven, eight or nine rider. He'd learned he had a ways to go to reach those levels, but he now had a better chance of living to get there.

"I definitely gained a lot more respect for the bike – a lot more trust with my skills and my bike's capabilities," he said.

The young Soldier had reached the course's goal, according to Picklesimer.

"The difference between a good rider and a great rider is knowing where you stand," he said. "It's being able to determine what your skill set is ... knowing how far you can (safely) 'push it.' You realize, as you get better, you're going to 'push it' less and less." ◀



READY FOR THE COMMUTE?

BOB VAN ELSBERG
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

Can't wait to face the rush-hour traffic to work? How about the "leisurely" commute home with drivers itching to be somewhere else? Truth be told, your chances of taking a detour to the hospital peak during commuting hours. Recognizing that, the Network of Employers for Traffic Safety (NETS) has declared Oct. 6-10 "Drive Safely to Work Week."

You say you're a better-than-average driver. Are you sure? Or, have you gotten so used to the rat race on the highways that you have become complacent to the dangers? Think about your commutes during the last month. Have you had an "uh-oh!" on the road? Was it something you accidentally did, or did some other driver nearly take you out and you didn't see it coming? With a traffic accident occurring every five minutes, it's clear many drivers are making mistakes on the road.

So, what can you do?

Here are a few tips from the folks at NETS to keep your daily commute from taking a detour to the hospital:

- Pay attention! Hang up the phone and focus on the job at hand.
- Keep a proper following distance. More space means more time to react when things go wrong on the road.
- Drive at the proper speed. Speed limits are based upon safety concerns that go beyond just yourself and your car. And if it's raining cats and dogs, you might want to slow down. Just because the speed limit is 70 mph doesn't mean you should plow the water like a speedboat.
- Pay attention to traffic signs and signals. Avoid the green means "go" and yellow means "go faster" mindset at intersections.
- Look before backing. It's not fun when things go bump in the night – or during the day, for that matter – behind you. ◀

This Ain't Your Fa

ALFRED RICE
The Joint Staff
Washington, D.C.



Mine Resistant Ambush Protected (MRAP) V-shaped hull transport vehicles are now being fielded successfully in theater. The MRAP is well designed for the missions of operating in environments with improvised explosive devices and provide significant protection for Soldiers. However, the vehicle does have some safety challenges. Driving an MRAP is not like driving a HMMWV. In other words, "This ain't your father's Oldsmobile."

Father's Oldsmobile



Training

An up-armored HMMWV weighs 6 to 7 tons, while an MRAP can weigh more than 25 tons. Compared to a HMMWV, the MRAP has very different steering, handling and maneuvering characteristics. If the MRAP were a commercial vehicle driven on public roadways, it would require the driver to

have a commercial driver's license.

Reports from the field indicate that although the MRAP is a big vehicle, it has good acceleration, and the power steering and air brakes make it easy to drive. But Leaders in theater recommend additional training requirements such as day and night hands-on driving on unimproved roads, backing with

ground guides from the ground and from the turret, and rollover drills.

As with all new equipment, MRAP training should include all the hazards associated with the vehicle. Those include crushed-hand injuries from the doors closing when not parked on even terrain, sharp metal edges around the door frames, vehicle recovery procedures and

limitations, antenna and power line safety, as well as all the other warnings and cautions listed in the operator's manual.

Stability

So, how does the MRAP's stability compare to other fielded vehicles? The U.S. Army Research and Development Command has compared extensive MRAP test data with other tactical

vehicles and determined testing results do not indicate the vehicle has stability or rollover performance issues. The MRAP exhibits similar stability and handling characteristics to other similar-sized vehicles such as the Family of Medium Tactical Vehicles, Medium Tactical Vehicle Replacement or the Heavy Expanded Mobility Tactical Truck. However, again, it handles much differently than a HMMWV. With the MRAP being a heavier vehicle, it also requires greater

stopping distances than the HMMWV.

Rollovers

All types of vehicles can roll over, including the MRAP. Taller, narrower-wheel-base vehicles that have higher centers of gravity are more susceptible to rollovers if involved in a single-vehicle crash. Although it may have good stability and rollover characteristics, MRAP operations require particular vigilance to prevent rollovers, as the vehicles also pose some

unique challenges.

Rollovers have been categorized by the following types: maneuver-initiated (swerving to avoid a pothole or other object or taking a corner too fast); impact-initiated (hitting a curb, median or pothole); or fall-initiated (a soft shoulder or the ground gives way). Fall-initiated rollovers often occur from unimproved roads that may be near bodies of water, where the road shoulders are soft.

The weight of the MRAP and the road

conditions in theater have resulted in a number of fall-initiated-type rollovers. To date, nearly half the MRAP rollovers have been fall-initiated from operating along roads near ditches or on bridges and culverts incapable of handling the weight of the vehicle.

Minimizing the Risk

Some of the tactics, techniques and procedures (TTPs) that are recommended to help prevent MRAP mishaps include:



REPORTS from the FIELD

indicate that although the **MRAP** is a big vehicle, it has **GOOD ACCELERATION**, and the **POWER STEERING** and **AIR BRAKES** make it **EASY TO DRIVE.**

• **Rollover drills.** MRAP crews should practice rollover drills to standard. Be proficient and learn to work as a team.

• **Composite risk assessments.** Incorporate the potential for rollovers in risk assessments by assessing bridges and terrain along the route. Be alert and always use caution on roads close to canals. Always consider allowing greater clearance when traveling along the edge of the road. Consider the probability of the road surface collapsing and pitching the vehicle. Also assess the potential for low-hanging power lines. Ensure these hazards are briefed before the missions and brief your options for alternate or bypass routes.

• **Crew restraints.** Vehicle commanders should enforce the use of crew restraints and protective headgear and ensure all loads are secure. According to a U.S. Army Center for Health Promotion and Preventive Medicine study, the risk of suffering a fatal injury is three times greater for

Soldiers who fail to wear a seat belt during tactical vehicle operations. Seat belts secure the driver in a position from which to stabilize an out-of-control vehicle. Gunner restraints should be worn to prevent the gunner from being ejected from the interior and crushed by the vehicle. Interior occupants can also sustain injuries from flying equipment, which makes securing loads particularly important since objects inside the cab will become deadly flying missiles should a rollover occur. Wear your helmet and other protective equipment at all times. This will protect vital parts of your body if they do come into contact with hard surfaces in the vehicle.

• **Steering.** Many rollovers occur when drivers overcorrect their steering as a panic reaction to an emergency or even to a wheel going off the pavement's edge. At highway speeds, overcorrecting or excessive steering can cause the driver to lose control, which

can force the vehicle to slide sideways and roll over. Sudden vehicle maneuvers are particularly risky since the speed and load shift can make the vehicle unstable.

• **Know proper maneuvering.** If the vehicle leaves the pavement edge, reduce speed. Gradually and firmly steer the vehicle onto the roadway. Slight steering inputs back onto the roadway reduces the risk of pinching the tire sidewalls against the edge of the road or inducing a flex in the sidewall that could cause the vehicle to veer out of control while transitioning from the shoulder to the road. Also, reduce speeds when negotiating turns and avoid sudden vehicle maneuvers, overcorrecting or excessive steering that can result in loss of control.

rollover crashes occur in rural areas, so practice caution when driving on rural roads. Also, use caution when crossing bridges that are unrated (get prior guidance from combat engineers).

• **Tire pressure.** Improperly inflated and worn tires can be especially dangerous because they inhibit the ability to maintain vehicle control, the most important factor in reducing the chance of rollover. Worn tires may cause the vehicle to slide sideways on wet or slippery pavement, sending the vehicle off the road and increasing the rollover risk. Improper inflation can accelerate tire wear and even lead to tire failure. It's important to maintain tire pressure in accordance with the operator's manual and replace tires when necessary.

Implementing these



For more information, visit the U.S. Army Combat Readiness/Safety Center's Driver's Training Toolbox at <https://crc.army.mil/drivertrainingtoolbox/mrap.aspx>.

• **Use caution on rural roads.** When a vehicle goes off a rural road, it can overturn when it strikes a ditch or embankment or is tripped by soft surface terrain. Road shoulders in Southwest Asia do not meet U.S. standards and may collapse under the weight of the MRAP. Nearly 75 percent of all

TTPs and understanding the characteristics of the MRAP will minimize mishap risks. These are best arsenals for tactical vehicle drivers and occupants to preserve this awesome warfighter asset. ◀






OLD HABITS ARE HARD TO BREAK

COMPILED BY THE KNOWLEDGE STAFF
U.S. Army Combat Readiness/Safety Center
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A recent accident in a new aircraft reminds us that old habits are hard to break. This particular accident happened to a master aviator during a daytime training flight. The pilot in command (PC) was a standardization pilot (SP) conducting readiness level progression training on an aviator with minimal experience.





The crew had been performing various practice maneuvers leading up to the time of the accident. Because the UH-72 does not have skid shoes, it is restricted from performing running landing maneuvers to hardened improved surfaces. This requirement led crews in this unit to perform running landings to the sod west of the runway. There were two precision approach path indicator (PAPI) lights near the southern end of the west sod. Because the best area for landing was just north of the PAPI lights, it was common for pilots to use the lights as a reference point for initiating maneuvers and for judging where to land. This flight was no exception. The PC on the controls came to a 150-foot hover over the PAPI lights and demonstrated Task 1072 from the aircrew training manual (ATM), *Respond to Engine Failure at Out-of-Ground Effect (OGE) Hover*, further described as one engine inoperative (OEI) OGE with landing.

After demonstrating the first iteration of the maneuver to the ground, the PC climbed back up to 150 feet above ground level (AGL) and positioned the aircraft with the PAPI lights visible in the chin bubble, which, in fact, placed the aircraft about 150 feet behind the lights.

The PC then initiated the second iteration of the maneuver by retarding the No. 1 engine to idle and making a substantial collective reduction. The PC also applied forward cyclic to achieve an approximate 20-degree nose-low attitude, as required by the ATM. The PC noticed the vertical rate of descent seemed excessive, so he adjusted his

nose-down attitude to less than 20 degrees. As the aircraft reached about 50 feet, the PC began to level the aircraft, but it did not transition to forward flight as it was supposed to do.

The UH-72 uses an instrument display called the first limit indicator (FLI) that summarizes indications from engine speed, temperature and torque. The PC increased collective to FLI 11 with single-engine power. He then pitched the nose upward in a decelerative attitude and increased the collective to the maximum FLI 14 as he reached 25 feet AGL. Because of the nose-high attitude, the tail rotor made contact with one of the PAPI lights, shredding the tail rotors and breaking the driveshaft. This impact forced the nose of the aircraft to pitch down and forward to where the right skid made contact with the ground. The aircraft bounced back into the air and, due to the loss of tail rotor thrust, the nose spun around to the right one complete turn before impacting the ground again in a level attitude.

As the AIRCRAFT REACHED about 50 FEET, the PC BEGAN to LEVEL the aircraft, BUT it did NOT TRANSITION to FORWARD flight as it was SUPPOSED TO DO.

The PC recognized the loss of tail rotor thrust and retarded both engines to idle during the rotation. The left skid broke because of the rotational forces and the forward momentum at the time of impact. The aircraft impacted the ground a second

time and came to rest upright with the left underside fuselage on the ground. The PC executed an emergency shutdown and both crewmembers egressed without any injuries.

So What Went Wrong?

According to the rotorcraft flight manual for the aircraft, the equivalent of an operator's manual, the correct procedure for this maneuver is to retard one engine to idle while simultaneously adjusting the collective to between FLI 11 and 12 to maintain rotor RPM within limits, and lower the nose approximately 20 degrees to gain airspeed. Once the aircraft has gained 30 to 45 knots of airspeed, the pilot should transition to a level attitude and continue a shallow approach to a running landing.

The PC initiated the maneuver with a rapid reduction of the collective while simultaneously retarding the No. 1 engine to idle. The rapid collective reduction resulted in an OEI FLI 8, which resulted in an excessive

vertical rate of descent and placed the rotor system in an autorotational state rather than a thrusting state. The aircraft was basically experiencing a hovering autorotation from 150 feet. The PC did not increase the collective to FLI 11 until about

50 feet. At about 25 feet, both pilots recognized an excessive rate of closure with the ground. The PC on the controls adjusted the attitude of the aircraft to about 25 degrees nose-high, while increasing the collective to FLI 14, as if conducting a deceleration and applying initial collective during an autorotation in some other Army aircraft. The nose-high attitude allowed the tail rotor to impact the PAPI lights, resulting in a subsequent tail rotor failure.

This scenario is very typical of habit interference or

negative habit transfer, which can occur when an aviator has more experience and flight time in one type aircraft and very little in another. In this scenario, the aviator may have reverted to the way he would have normally responded to an emergency situation in the aircraft in which he had the most experience. Couple his transition to a new aircraft with a long period of nonflying duty due to deployments and a change of duty stations and we have a classic case of habit interference.

How Can We Avoid Training Habit Interference?

First, we must have well-developed and detailed standards. Then we have to train to those standards. We have to know the procedures in the operator's manual and commit the underlined portion of emergency procedures to memory. Unfortunately, the only real way to cure negative habit transfer is many repetitions of the correct performance of the task. It requires repetitive training of procedures correctly performed

A CLOSE CALL IN IRAQ

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What does **AIRCREW COORDINATION** encompass? **WHEN** does it **BEGIN** and when does it **END**?

to a standard. One Web site on the subject stated that it can take up to 2,000 repetitions when learning a new task before the brain completely replaces the "old way" of doing the task. This problem is intensified when a pilot has been away from flying for a while or regularly changes from one aircraft to another. Even experienced pilots can inadvertently revert to their previous training. As they say, "Old habits are hard to break." Pilots who fly more than one type or series of aircraft, or who transition into a new aircraft, have to remain focused on the aircraft being flown and cognizant of the risk of negative habit transfer. ◀



We had just taken off on a four-hour night vision goggle airfield security mission. I was the pilot in command and air mission commander for a team of two OH-58Ds. We were just weeks from going home, so to lower our risk of losing anyone to an accident, our company safety officer had recently coordinated several training classes emphasizing aircrew coordination.

Airfield security was a mission we had done a hundred times before; however, this time, there were problems right from the start. As soon as we took off, one of the radios broke squelch and wouldn't stop. I couldn't

understand my co-pilot or my wing man. A minute later, we were at mission airspeed and altitude. A few seconds later, we were flying over a well-lit area that washed out our goggles. At this point, I felt I was experienced enough to recognize that we were maneuvering into a classic accident situation, so over the radio noise I told my co-pilot, "You fix the radio, call off with OPS and I'll fly the aircraft." Unable to understand his response, he gave me a thumbs up.

Even though I was concentrating on basic flying, I realized I was rapidly getting behind the aircraft with the radio hissing and washed-out goggles. In all the confusion, I heard one

word, "wires." My wing had calmly and clearly transmitted that one word and, for whatever reason, it sliced through the interference. I didn't see any wires; nevertheless, I immediately initiated a smooth, 500-foot-per-minute climb. A few moments later, the radios cleared and we passed about 50 feet over a huge set of wires.

The rest of the mission went smoothly. Hours later at the chow hall, I realized I had learned a valuable lesson. Even though the crews had more than 9,000 hours of total flight experience in both cockpits during this close call, my wing was the only pilot with total situational awareness. He recognized

that accidents are a chain of related events and broke the chain with one simple word. By doing so, he prevented what could have been two fatalities and a destroyed aircraft. Aircrew coordination suddenly became much more than a required class to improve Army aviation operations.

So, what does aircrew coordination encompass? It's not only for your aircraft, but also extends to the other aircraft in the flight, ground element, air traffic control and others. When does it begin and when does it end? It starts at the mission brief and ends in the chow hall. I had both questions answered in a close call while in Iraq. ◀

Road Rage

ALONG FOR THE

It's hard to drive today without occasionally being exposed to some form of road rage. Impatient drivers motoring down congested highways sometimes take their anger out on those around them. When you're behind the wheel, you can choose not to engage and try to get away from an aggressive driver. However, what about when you're a passenger? In this story, the author considers the role he, as a passenger, could have played in keeping a highway confrontation from turning into a crash. After dinner one night at a local restaurant, three friends and I decided to head home. I sat in the right-front

passenger's seat while one of my friends drove us down a limited-access highway. As we neared our exit, another driver approached us rather aggressively, tailgating our vehicle and flashing his high beams. Our driver quickly became annoyed and, in the same aggressive spirit,

other driver sped by us on the right. Our driver, who was furious by this point, decided this was unacceptable and mashed the accelerator pedal. We had almost caught up to the other vehicle when our driver crossed the double solid lines into the oncoming lane to pass. As we did, the

straight toward a tree. Fortunately, when we hit, the impact was off center and the car spun and wrapped itself around the tree. Had we hit it dead-center with our front bumper, I doubt any of us would have survived. After the accident, our driver claimed the other driver swerved toward us,

“ I LEARNED from this THAT WE, as PASSENGERS, are also RESPONSIBLE for SAFETY ON THE ROAD. ”

intentionally slowed down as we moved toward the off-ramp.

As we exited the highway and merged onto a two-lane road, the

other driver also sped up.

We were going between 80 and 90 mph when our driver swerved and lost control, sending us off the road and

but I disagree. I was the passenger with the best view of what happened and I know better.

If there was anything good about this accident,

DEALING WITH AGGRESSIVE DRIVERS

RIDE

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it was the fact that we all survived. Miraculously, I suffered only a sprained foot and a bruised chest. Had it not been for my seat belt, I would have suffered more serious injuries.

But what was my role in this accident? Where did I fail to be a diligent passenger? I failed because not once during the entire sequence of events did I try to discourage my driver from acting out his anger. When he took off after the other car, I said nothing about the danger he was putting us in. When he illegally crossed into the oncoming lane, I kept quiet and went along for the ride. When he swerved and went off the

road, there wasn't time to say anything. I'd gone from being along for the ride to being along for the crash. I could, and should, have compelled our driver to reconsider his confrontational actions. But I'd missed that opportunity.

I learned from this that we, as passengers, are also responsible for safety on the road. Even though we may not be in control during a dangerous situation, we should never underestimate our influence on others—even from the passenger seat. A few timely words of sound judgment can prevent a lifetime of pain, or worse, a season of mourning. «



If you drive, sooner or later you will be confronted with an aggressive driver who tailgates, honks, cuts you off or makes rude gestures. Your first reaction might be to respond in kind, but that could soon escalate into a full-blown road-rage incident. There are better ways to respond to these incidents so that you and your passengers don't become the victims of someone else's anger or your own. The National Highway Traffic Safety Administration offers the following tips for defusing these situations:

- Make every attempt to safely move out of the aggressive driver's way.
- Do not challenge an aggressive driver by speeding up or attempting to "hold your own" in the travel lane.
- Always wear your seat belt. It will hold you in your seat and behind the wheel in case you need to make an abrupt driving maneuver, as well as protect you in a crash.
- Avoid eye contact with the aggressive driver.
- Ignore gestures and refuse to return them.
- Report aggressive drivers to the appropriate authorities by providing a vehicle description, license plate number, location and, if possible, direction of travel.
- If you have a cell phone and can use it while driving safely, call the police. Many have special numbers such as 911.

Light My

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For Soldiers, working and training outdoors is just part of the job. As another winter approaches, some Soldiers will choose to kill the chill with space heaters and stoves. While heaters may do a good job warming a tent on a cold winter's night, they also significantly increase Soldiers' exposure to fires and carbon monoxide (CO) hazards.

Did you know fire can engulf a tent in just 10 seconds and destroy it in 60 seconds? That gives Soldiers little time to react. In an effort to combat the risk of tent fires, the product manager, Force Sustainment Systems, manages a family of space

heaters authorized for use by Army units. Units alerted for deployment should assess their environmental requirements versus on-hand space heaters and order the required heaters before deployment. Approved and tested Army personnel heaters include:

- **H-45 space heater (NSN 4520-01-329-3451):** The H-45 replaces the old potbelly M-1941. The H-45 will heat general purpose and TEMPER tents and burns liquid and solid fuels.

- **Arctic space heater (NSN 4520-01-444-2375):** The Arctic heater replaces the gasoline-burning M-1950 Yukon heater and is a lightweight, portable heater for five- and 10-man Arctic tents. The Arctic heater burns liquid and solid fuels.



» DID YOU KNOW?

From fiscal 2004 to 2007 in Iraq, the Army lost more than \$1 million of equipment due to electrical fires. To prevent electrical fires, use Underwriters Laboratory (UL)-certified electrical products, don't overload electrical circuits and conduct regular fire inspections to search for and correct electrical hazards.

• **Small space heater (NSN 4520-01-478-9207):** The small space heater is ideal for use in smaller tents such as the four-man Soldier/crew tent. It burns liquid fuel and has a built-in tank, precluding the need for an external fuel can and stand.

• **Convective space heater (NSN 4520-01-431-8927):** The convective space heater provides forced hot air for tents and shelters. This heater generates its own power and recharges its battery.

• **Thermoelectric fan (NSN 4520-01-457-2790):** The thermoelectric fan is a compact, self-powered unit that fits on top of any military tent heater. The fan uses some of the heat to turn the fan blades, which circulates heated air, improves comfort and saves fuel.

body, CO enters the blood and deprives the heart, brain and other vital organs of oxygen.

Low levels of CO can result in shortness of breath, mild headaches and nausea. These symptoms are often confused with food poisoning, influenza and other illnesses. At moderate levels, individuals exposed to CO may experience tightness across the chest, severe headaches, dizziness, drowsiness and nausea. Prolonged or high exposures may result in vomiting, confusion, muscle weakness, collapse and even death. Leaders must ensure Soldiers are trained to recognize potential sources of CO and the symptoms of CO poisoning.

Before using a space heater or stove in a tent, keep the following tips in mind:

- All heaters and stoves should be operated in accordance with the applicable technical manual.

- Have a fire guard when heating shelters at night.

- Place stoves in sandboxes when heating tents with wooden floors.

- Even in extreme cold, do not operate heaters at full capacity.

- In the event of a tent fire or suspected presence of CO, first and most importantly, evacuate the tent.

Freezing temperatures can make sleeping in a tent a miserable experience. By following the proper precautions when using space heaters or stoves, Soldiers can ensure they'll stay warm and safe on the coldest of nights. ◀

» FYI

The fire safety regulation has been changed. Army Regulation (AR) 420-1, *Army Facilities Management*, Feb. 19, 2008, supersedes AR 420-90, *Facilities Engineering, Fire and Emergency Services*, Dec. 10, 1997. Units and safety personnel, update your fire and safety checklist!

Another hazard associated with tent heaters is CO, a poisonous, colorless, odorless and tasteless gas. It is produced as a result of the incomplete burning of natural gas and other carbon-containing materials such as kerosene, oil, propane, coal, gasoline and wood. When breathed into the



The call

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Hunting season is here again and not a moment too soon. There is nothing quite like getting out in the woods and touching, smelling and being a part of nature. Even if you don't hunt, just being surrounded by the sights and sounds of the forest calms the soul. However, whatever your reason for being there, the great outdoors can be a dangerous place if you are not properly prepared.

Most hunters have their favorite "spots" and know the lay of the land. Their private hunting grounds are just a short distance away, with their stand not far from the lodge. But for others, hunting in wildlife management areas or remote-access locations can take you several miles into some pretty rugged country. Whichever type hunter you are, having the proper survival gear can be the difference between life and death should you encounter any unexpected problems.

Most accidents involving hunters are either self-inflicted or caused by poor planning. Both

can be deadly. A simple walk 300 yards into the woods can be as dangerous as a four-mile hike through backcountry if you're not prepared. Hypothermia, blood loss, shock and trauma can all pose a deadly threat to hunters. Before heading out, take the Boy Scout motto to heart – "Be Prepared."

By following a few simple safety guidelines, your hunting trip can have a happy ending. That way, you can live to tell your grandchildren stories of that 30-point buck you see every year. Keep these tips in mind when planning a hunting trip:

- Always let someone know exactly where you are hunting, who you'll be with and when you'll return. Leave a map with your hunting "spots" inside your vehicle so help can find you if you don't come home on time. Carry a cell phone or two-way radio.
- Always carry a survival kit in your backpack and restock it every season before opening day.
- Know how to survive. Take a course or read a book on techniques unique to your location. Know how to obtain water, food and shelter, with water being the most important. The smallest tip could save

your life. Play the "what-if" game.

- Learn first aid and know how to use it on yourself if necessary. Practice self-administered first aid. You'll have a better grasp on your limitations and be able to react instinctively when seconds count.

- If using a treestand, make sure you understand and follow the manufacturer's instructions.

necessary personal protective equipment and slow down so you have control. According to the Consumer Product Safety Commission, there were more than 8,100 ATV-related fatalities between 1982 and 2006.

- Always maintain safe hunting practices and make sure your buddies do likewise. Leave the alcohol at home. It has no place in the field.

- Treat every gun as if it were loaded and practice safe gun handling every time you touch a gun. Never climb while holding a gun. Always keep the safety in the "ON" position until you are ready to fire.

Finally, most states require hunters to attend a safety course before they can be issued a hunting license. If you have children who will be hunting with you this year, consider attending the course with them. Doing that together builds a special bond that is priceless. You also just might learn something in the process. I know I did. <<

of the wild

Select a live tree with a diameter that matches the requirement for your treestand. Before each use, inspect the treestand for loose, missing or broken parts. Also, always wear a safety harness when climbing or in a treestand.

- If using an all-terrain vehicle (ATV), be sure you have taken a course in ATV safety, wear all

» FYI

Before heading out to bag your trophy buck, make sure you bring along a survival kit. A good survival kit should fit inside a fanny pack and weigh just a little more than 4 pounds. A good fanny pack or a pocket in a backpack is all you'll need. Here are some items your kit should include:

- A lightweight nylon sweatshirt (be prepared should you have to spend the night)
- Waterproof matches or lighter
- Compass or GPS
- A sturdy, sharp knife
- Duct tape
- Water purification tablets
- Collapsible water bottle
- High-calorie food (candy bars) or beef jerky
- Nylon string or parachute cord
- Signal mirror
- Large handkerchief
- Ax, hatchet or portable saw
- Flashlight and back-up batteries
- Multipurpose tool



Is Army Aviation Prepared to Respond to

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Hurricanes, tornados, wildfires, mudslides and earthquakes are some of the large-scale recurring natural disasters our nation has faced historically and will, no doubt, face again.

These disasters aren't the only threat we Americans face on our own soil. Top-level government officials, including the President of the United States and directors of national security and the Federal Bureau of Investigation, have warned that terrorists want to strike America again.

All these disasters require the unique capabilities possessed by the military, but this doesn't mean the Army will be the sole responder. However, Army aviation needs to be proactive and prepared to respond and seamlessly integrate with other responders to assist our citizens.

In 2006, borne out of an analysis of the Hurricane Katrina response, the U.S. Government Accountability Office (GAO) issued a statement of record on terrorism, unconventional threats

and capabilities to the U.S. Senate Committee on Armed Services and U.S. House of Representatives House Armed Services Committee regarding the military's need to have better plans to respond to natural disasters.

Whether responding to a natural or manmade disaster (e.g., hurricane or terrorism), the requirement to respond as effectively and safely as possible is paramount in preventing loss and preserving Soldiers' lives and equipment.

Part of an Army aviation commander's responsibility is to ensure the corrective actions/controls to improve performance are included in unit standing operating procedures (SOP) as specified in Department of Army Pamphlet (DA Pam) 385-90, *Army Aviation Accident Prevention*

Program, paragraph 1-4 (j) (11). Commanders should consider reviewing and revising unit SOPs and safety programs to ensure they synchronize with the National Response Plan (NRP). President George W. Bush issued Homeland Security Presidential Directive-5 to create and implement the NRP. The NRP doesn't create new authorities. Instead, it unifies and enhances incident management capabilities and the resources of several individual agencies and organizations acting under their own command structure during response to a vast array of potential threats and hazards. The overall purpose of the NRP is to align federal capabilities and resources into a unified, all-disciplines approach to the management of domestic incidents.

epared a CONUS Disaster?



Some specific issues to consider in planning are how to integrate with large numbers of personnel from different commands; how command, control and communications will be conducted; and how situational awareness will be acquired through performing preliminary damage assessments.

Addressing problems identified in lessons learned reports, before disaster strikes, will assist you in effectively assessing and controlling risk during impromptu large-scale incidents involving multiple federal, state, local and non-governmental organizations.

The GAO Report and NRP referred to in this article are available at the links to the right. The links provided are not the only references you should review, but they will be a good place to start.◀



Government Accountability Office (GAO) Report:
<http://www.gao.gov/new.items/d06808t.pdf>

National Response Plan (NRP): http://www.dhs.gov/xprepresp/committees/editorial_0566.shtm

National Response Team (NRT): "Collaborative Communications During Emergency Response," <http://www.au.af.mil/au/awc/awcgate/nrt/jic-model.pdf>

DoD Instruction 2000.18: "Department of Defense Installation Chemical, Biological, Radiological, Nuclear and High-Yield Explosive Emergency Response Guidelines," Dec. 4, 2002, <http://www.dtic.mil/whs/directives/corres/pdf/200018p.pdf>

Defense Support of Civilian Agencies (DSCA) Handbook: http://www.au.af.mil/au/awc/awcgate/army/dsca_handbook.pdf

European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR) 2001, Chapter 7: "Managing the Consequences of Domestic Weapons of Mass Destruction Incidents," DoD Annual Report to the President and Congress, <http://c21.maxwell.af.mil/dod/adr01-ch7.pdf>

Center of Excellence in Disaster Management and Humanitarian Assistance: <http://www.coe-dmha.org/>

National Domestic Preparedness Office (NDPO): "On-Scene Commander's Guide for Responding to Biological/Chemical Threats," http://www.au.af.mil/au/awc/awcgate/ndpo/oscg_ndpo.pdf

ROOM *to live*

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Do you have room to live? What does that mean if you're in your vehicle on the highway? The simple answer is your vehicle was designed to provide a protected living space – room to live – to help you survive an accident. The problem is, far too many people choose not to wear their seat belts and are thrown out of that room during a rollover crash. Afterward, a family member will often say, "I

can't believe he wasn't wearing a seat belt. He always wore one."

Do people wear their seat belts as often as they say, or is life so cruel that the one time they don't, they're ejected in a rollover crash?

While having a crash might be an accident, surviving it doesn't have to be. If you're going to survive, you need the following things working in your favor. If even one of these doesn't, you will not be having a good day.

- Container
- Restraints
- Energy absorption
- Environment
- Post-crash factors

In today's vehicles, the container is designed to provide you with a survivable living space during a crash. However, that only works if restraints are used – specifically, your seat belts. Your car is designed to absorb the energy of a collision while protecting you inside the

CASE IN POINT

Take a look at the car below. From the outside, it looks pretty mangled. Now take a look at the photo of the car's interior. Although the roofline was smashed down a bit on the driver's side and the door pushed in against the seat, there was plenty of room to live. Notice the air bag? It deployed as advertised.

Everything that could be engineered into the car to protect its driver during this accident functioned properly. But the driver didn't survive. Going too fast around a curve, he lost control, went off the road and struck a telephone pole. The impact flipped his car and ejected him into a tree, where he died.



The driver's parents thought he always wore his seat belt – they'd told him to plenty of times. Was this the only time he ignored their advice? We'll never know. All we know for sure is he'll never do it again.

occupant compartment. If seat belts aren't used, then the environment comes into play as you're slammed against your windshield, dash and other parts of your vehicle's interior. And don't count on air bags – great as they are – to save you. If

While **HAVING** a **CRASH** might be an **ACCIDENT**, **SURVIVING** it **DOESN'T** have to be.

unrestrained, you'll simply slide around them, possibly increasing the chance of being thrown from the vehicle. Finally, post-crash factors are what happen when you survive being ejected, only to land in the road and become a speed bump.

You often hear about this happening during single-vehicle accidents. The driver goes too fast around a corner, loses control and rolls the vehicle. As the vehicle rolls, the unrestrained driver is thrown from the vehicle into a pole or tree or some other immovable object. You look at the accident picture and see the crashed car with a body lying nearby. As you look closely at the car, you wonder, "Was there room to live? Did the victim die needlessly because they didn't wear a seat belt this (one) time?"

In these accidents, dying is the "easy" part; it's living with that loss that can be unbearable. Families are left not only to mourn their loss, but to ask the unanswerable question – "why?"

As Soldiers, we have adapted to accept a level of risk most others cannot understand. However, that shouldn't cause us to be reckless. We need to wear our seat belts – not just sometimes, but all the time. If not for ourselves, we should do it for our Families. Every time we get behind the wheel, we have a choice of which "room" we want to be in. We can either choose room to live inside our car, or room to lie inside our casket. Which suits you better? Which would your family prefer? <<

ASG-QATAR RECEIVES SAFETY AWARD

DUSTIN SENGER
Area Support Group-Qatar Public Affairs Office
Camp As Sayliyah, Qatar

CAMP AS SAYLIYAH, Qatar – Area Support Group-Qatar (ASG-QA) was named the best garrison safety program in the Army for fiscal 2007. Lt. Gen. Jim Lovelace, U.S. Army Central commanding general, recently presented the Secretary of the Army and Chief of Staff of the Army Exceptional Organization Safety Award to Col. David G. Cotter, ASG-QA commander. The command facilitates base operations services and security at Camp As Sayliyah.



<< Lt. Gen. Jim Lovelace, U.S. Army Central commanding general, presents the Secretary of the Army and Chief of Staff of the Army Exceptional Organization Safety Award to Col. David G. Cotter, Area Support Group-Qatar commander.

Robert East, the installation safety manager at Camp As Sayliyah, was also recognized. Lovelace presented East with the Individual Award of Excellence in Safety, contractor category. Commonly known as "Safety Bob," East reaches out to tenant units and organizations trying to construct and implement effective safety programs.

Each year, Army officials commend installations, units and individuals for accident prevention efforts and safety-minded service. They strive to identify Army components that clearly



& Lovelace presents Robert East the Army Individual Award of Excellence in Safety, contractor category.

reflect dedicated service in supporting Army readiness and mission success. For a more detailed list of the fiscal 2007 awardees, see the June issue of *Knowledge* online at https://cra.army.mil/knowledge_online. <<



THERE'S A NEW TOOL IN TOWN ...

GRAT

GROUND RISK ASSESSMENT TOOL

RICHARD SCOTT
U.S. Army Combat Readiness/Safety Center
Fort Rucker, Ala.

The U.S. Army Combat Readiness/Safety Center (USACRC) has developed a new risk assessment tool to assist Leaders and Soldiers in identifying accident hazards and controls for a variety of ground operations and off-duty activities.



The Ground Risk Assessment Tool (GRAT) is designed to assist Leaders in gathering information to aid in applying the composite risk management (CRM) process. GRAT helps users capture hazards and controls they may not have considered and produces a CRM worksheet (DA Form 7566) for a specific mission or task. The tool

contains a user-friendly list of regulations and publications from which information can be obtained to assist with building the worksheets.

GRAT is formatted in five integral pieces – each of which will quickly enhance the user's ability to obtain information required for worksheet completion.

- Part one allows the user to review statistical accident data.

- Part two displays accident vignettes related



to the user's selected mission, task or activity.

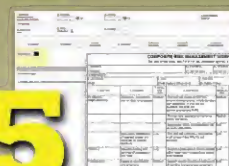
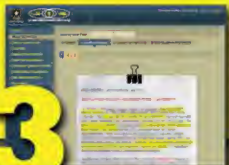
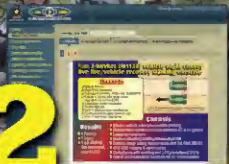
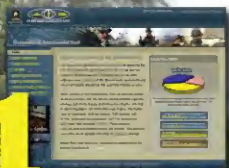
■Part three allows users to review the most recent accident summaries related to the task they selected.

■Part four contains a list of Army regulations and technical bulletins, along with training circulars and tactics, techniques and procedures from units in the field. These are provided to heighten awareness of hazards faced in the field and controls that have worked.

■Part five is an automated interactive CRM worksheet that is based on user input or selection of existing accident hazards and controls. Users can print and update the

worksheet even after it is saved or e-mailed.

GRAT is designed to help commanders and their staffs in the risk management process. The USACRC will continuously update the tool with current, relevant information from Army units around the world, which will help Soldiers save time, learn from others' mistakes and integrate CRM into their thought processes. Using GRAT in concert with the military decision-making process will help Army Leaders at all echelons achieve success in their missions and make safety an integral part of their planning. ◀



LOST

AVIATION

AH-64



CLASS C D Model

During aircraft run-up, the crew experienced an auxiliary power unit (APU) failure and subsequent fire. The crew activated the onboard fire extinguisher system. With the help of the local fire department, the fire was successfully extinguished with minimal damage to the aircraft.

CH-47



CLASS A D Model

While hovering over a sling-load, the load began rolling along

the ground caused by rotor wash from the hovering aircraft. A ground crewmember was fatally injured when the load rolled over him.

WAS THE LOAD RIGGED AND CERTIFIED IAW THE FM?

CLASS B

During landing at an improved landing site, the right-front landing gear separated after entering a rut. The aircraft was repositioned to base for an assisted landing.

MH-47



CLASS C E Model

The aircraft experienced loss of oil pressure in both

engine transmissions during a post-phase maintenance test flight (MTF) stop. A maintenance discrepancy is suspected.

WAS MAINTENANCE DONE USING THE PROPER STANDARDS?

OH-58



CLASS B D(I) Model

The aircraft mast-mounted sight upper shroud separated from the aircraft during an MTF.

UH-1



CLASS C V Model

The aircraft contacted vegetation during upslope

training. Suspected mast bumping occurred as the skids became entangled in the vegetation.

UH-60



CLASS B L Model

■ On final approach during a daytime training instrument landing system (ILS) procedure, the aircraft experienced a lightning strike. The crew experienced a stabilator auto mode failure audio warning and master caution light. The crew terminated the ILS and conducted a roll-on landing. Late report.

CLASS C

■ The aircraft contacted a tree during landing, damaging the underside, to include No. 1 FM antenna and stabilator.

DURING APPROACH TO LANDING, DID THE CREW CONDUCT A LOW-LEVEL LZ RECON FOR SUITABILITY, IDENTIFYING OBSTACLES AND ELECTING THE PROPER LANDING AZIMUTH?

UC-35



CLASS C

■ Lightning strike damage was identified during postflight inspection. The crew reported only moderate turbulence and hail during the flight and completed the mission without experiencing any further damage.

UAS

MQ-5B



CLASS A

■ The UAS drifted off course during student training

and impacted hilly terrain. The UAS was destroyed.

RQ-11A



CLASS C

■ The air vehicle operator (AVO) experienced loss of computer link with the UAS shortly after launch. The UAS was tracked for 500 meters until the signal was lost. The UAS was not recovered.

CLASS C

■ Controllers lost video feed link with the UAS during flight and landed in a river. The UAS was not recovered.

RQ-11B



CLASS C

■ The AVO experienced loss of video link with the system during flight. The UAS was not recovered.

■ While flying reconnaissance operations, the UAS was 34 minutes into flight when the battery started losing voltage about one volt every couple of seconds. The battery soon lost the ability to power the motor and the UAS crashed into a building. The UAS was not recovered.

RQ-7B



CLASS B

■ The UAS experienced an electrical malfunction during the launch sequence and crashed shortly after becoming airborne.

■ The controller lost computer link with the UAS shortly after takeoff and crashed into a nearby river. The UAS was deemed a total loss after recovery.

ARMY AIRCRAFT LOSSES

Fiscal 2002 to Present
as of August 5, 2008



AH-64A/D	11/51
U/MH-60A/L	9/28
C/MH-47	8/18
OH-58D	11/30

TOTAL 39/127

ARMY GROUND LOSSES

Fiscal 2008
as of August 31, 2008



AMV	17/14
ACV	7/6
PERSONNEL INJURY includes weapons handling accidents	36/30
FIRE/EXPLOSION	3/3
PROPERTY DAMAGE	5/0

TOTAL 68/53

■ The UAS was force-landed to the drop zone during training. The recovery chute was deployed, but the UAS touched down in a non-level attitude and contacted the ground wing first.

CLASS C

■ The UAS was launched on a routine mission. During the climb to altitude, the UAS's engine temperature elevated, resulting in an RPM fluctuation and subsequent engine failure shortly after launch. The recovery chute was deployed and the UAS landed with damage.

■ The UAS was launched on a routine mission when, about 25 feet above ground level (AGL), the TALS system issued a "cut engine" command and the vehicle's engine responded accordingly. The UAS sustained damage, but was repaired and returned to service.

GROUND

ACV



CLASS A

■ A Soldier serving as the gunner in an M1117 Armored Security Vehicle (ASV) was killed when the vehicle overturned during a convoy security mission. The driver of the ASV was maneuvering through narrow streets and crowded areas when he lost control of the vehicle.

CLASS B

■ A Soldier broke his leg when his ASV overturned. The vehicle crew was in the process of towing an M1114 HMMWV at the time of the accident.

AMV



CLASS A

■ A Soldier was driving a Light Medium Tactical Vehicle when the brakes locked up, causing it to enter the opposing lane and collide with a civilian privately owned vehicle (POV). The driver of the POV was fatally injured.

Personnel Injury



CLASS A

■ A Soldier drowned at a beach when he attempted to save two minors on a float who were being pulled out to sea by a rip tide. The Soldier's body was recovered the next morning.

■ A Soldier was fatally wounded by his M9 weapon following a unit mission. The Soldier had laid the weapon down in his quarters and it fell to the floor. When his roommate picked up the weapon to return it, it fired, striking the Soldier in the torso.

■ A Soldier was killed when he fired a weapon he didn't realize was loaded and suffered a gunshot wound to the head. Alcohol was a factor in the incident.

DO YOUR SOLDIERS UNDERSTAND THAT MIXING ALCOHOL AND AMMUNITION WHEN HANDLING A FIREARM IS A RECIPE FOR A DEADLY ACCIDENT?

■ A Soldier was killed in a hit-and-run accident while attempting to cross an intersection on foot.

■ A Soldier was running on railroad tracks while listening to his mp3 player when he was struck from behind by a train. The engineer sounded the train's horn and attempted an emergency stop, but was not able to avoid the Soldier, who was killed on impact.

CLASS B

■ A Soldier suffered a permanent partial disability injury



while trying to clear a blockage from the grass chute on his lawnmower. The Soldier failed to turn off the lawnmower before he removed the safety cover and put his hand inside the area where the blades are located, resulting in the amputation of his right index finger.

➤ **DO YOUR SOLDIERS APPLY COMPOSITE RISK MANAGEMENT TO ALL THEIR OFF-DUTY ACTIVITIES?**

DRIVING

POV



CLASS A

■ A Soldier was driving his vehicle with four other Soldiers riding as passengers when a civilian pickup truck cut him off at an intersection. As the Soldier attempted to avoid the pickup, his vehicle went out of control and rolled over. One of the Soldiers riding as a passenger was killed.

■ A Soldier was driving his vehicle with two friends riding as passengers when it overturned on a rural road. The Soldier suffered a permanent total disability.

POM



CLASS A

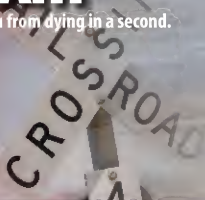
■ A Soldier was operating his motorcycle at high speed while passing other motorists when he lost control and crashed. The Soldier suffered fatal injuries.

■ A Soldier was participating in a sanctioned sportbike race when the biker in front of him suddenly slowed. As the Soldier attempted to avoid a collision, he struck a wall and suffered a permanent total disability injury.

A BARRIER BETWEEN LIFE AND DEATH

Stopping for a minute could keep you from dying in a second.

Recently, a Soldier died in a privately owned vehicle accident when he attempted to cross railroad tracks and was struck by a train. The warning signals at the crossing were activated and the gates were down. The train hit the passenger side of the vehicle. The Soldier and his passenger were both pronounced dead at the scene.



■ A Soldier was operating his motorcycle when he struck a curb while turning and was thrown from the bike and into a tree. The Soldier suffered fatal injuries.

■ A Soldier was operating his newly purchased motorcycle when he lost control while negotiating a curve. The Soldier was thrown from the motorcycle and killed.

➤ **DO YOU KNOW WHEN ONE OF YOUR SOLDIERS BUYS A MOTORCYCLE? DO YOU ENSURE THAT SOLDIER HAS BEEN TRAINED TO RIDE SAFELY?**

■ A Soldier was operating his motorcycle when he collided with a civilian vehicle after proceeding through a yield sign at an intersection. The Soldier was fatally injured.

■ A Soldier was killed while operating his motorcycle when he failed to negotiate a curve and struck a fence.

■ A Soldier was operating a borrowed motorcycle when he lost control, went off the highway and down a steep embankment. The Soldier suffered fatal injuries.

■ A Soldier was operating his motorcycle when he ran a stop sign and broadsided a pickup truck that was proceeding through the intersection. The Soldier suffered fatal injuries.

➤ **ALCOHOL PLAYED A ROLE IN THIS TRAGEDY. HAVE YOU STRESSED TO YOUR SOLDIERS THE IMPORTANCE OF NOT DRINKING AND RIDING?**

■ A Soldier was operating his motorcycle en route to duty when he collided with a van that pulled into his path. The Soldier was wearing his personal protective equipment, to include a full-face helmet, but died from his injuries.

ATV



CLASS A

■ A Soldier had been operating his all-terrain vehicle (ATV) at a state park when he was later found on the ground unresponsive by another rider. The Soldier had apparently fallen from the ATV. He was transported for treatment but died four days later.

Editor's note: Information published in the accident briefs section is based on preliminary loss reports submitted by units and is subject to change. For more information on selected accident briefs, e-mail knowledge@crc.army.mil.

**MAKE SOUND RISK DECISIONS.
REDUCE ACCIDENTAL LOSS.
INCREASE COMBAT POWER.**

GRAT

GROUND RISK ASSESSMENT TOOL

<https://crc.army.mil/grat>



The Ground Risk Assessment Tool is designed to aid in mitigating risk by reinforcing the five-step composite risk management process and providing users with potential accident hazards and controls. Using this tool in concert with the military decision-making process will help Army Leaders achieve success in their missions and make safety an integral part of their planning. Visit the USACRC Web site today and try it out for yourself.



**ARMY SAFE
IS ARMY STRONG**

Planning is key to a safe, enjoyable vacation. Make sure your Family, vehicle and home are all prepared to enjoy stress-free travels.

safety begins with Teamwork



You're ready to get on the road - is your vehicle ready?

- Do a pre-travel vehicle inspection to avoid costly and inconvenient repairs.
- Check the battery and cables, tire inflation and tread, fluid levels and belts and hoses.
- Make sure child safety seats are properly installed and all seat belts are in working order.

Did you check and double-check?

- Use a packing list to help you remember everything you need for your trip.
- Prepare for an emergency - have your cell phone, charger and list of important numbers.
- Make sure at least two other people know your travel plans and daily itinerary.

While you're relaxing, could burglars be hard at work in your home?

- Ask a neighbor to watch your house and provide them with emergency contact information.
- Lock all doors and windows and secure garage doors, sheds and gates.
- Avoid the empty-house look - stop mail, arrange for lawn care and use auto timers on lights.

TRAVEL RISK **TRIPS** PLANNING SYSTEM <https://crc.army.mil>

Remember, if your travel plans put you in the driver's seat, you need to access the Travel Risk Planning System (TRIPS) to receive valuable hazard and risk mitigation information. TRIPS expands leadership engagement by providing supervisors and chain of command visibility of subordinates' travel plans and potential risks.



U.S. ARMY

ARMY STRONG.™



U.S. ARMY COMBAT READINESS/SAFETY CENTER

<https://crc.army.mil>

ARMY SAFE
IS ARMY STRONG

101
CRITICAL
DAYS OF SUMMER
26 May - 1 Sept 2008

**Don't leave
the pier
without it!**



101 CRITICAL DAYS OF SUMMER

26 May ~ 1 Sept 2008



U.S. ARMY

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**ARMY SAFE
IS ARMY STRONG**